

In the Claims:

1. (Original) A method of forming a multi-layer dielectric structure, the method comprising:

forming a first dielectric layer on a substrate according to a CVD process; and

forming a second dielectric layer directly on the first dielectric layer according to an ALD process.

2. (Original) The method according to Claim 1, wherein the first dielectric layer comprises one selected from the group consisting of SiO_2 , Si_3N_3 , Ta_2O_5 , HfO_2 , ZrO_2 , TiO_2 , Y_2O_3 , Pr_2O_3 , La_2O_3 , Nb_2O_5 , SrTiO_3 (STO), BaSrTiO_3 (BST) and PbZrTiO_3 (PZT).

3. (Original) The method according to Claim 1, wherein the second dielectric layer comprises one selected from the group consisting of SiO_2 , Si_3N_3 , Al_2O_3 , Ta_2O_5 , HfO_2 , ZrO_2 , TiO_2 , Y_2O_3 , Pr_2O_3 , La_2O_3 , Nb_2O_5 , SrTiO_3 (STO), BaSrTiO_3 (BST) and PbZrTiO_3 (PZT).

4. (Original) The method according to Claim 1, wherein the first dielectric layer includes HfO_2 and the second dielectric layer includes Al_2O_3 .

5. (Original) The method according to Claim 1, wherein forming a first dielectric layer comprises forming the first dielectric layer at a temperature in a range from about 25°C to about 700°C and a pressure in a range from about 1×10^{-6} Torr to about 760 Torr during the CVD process, and wherein forming a second dielectric layer comprises forming the second dielectric layer at a temperature in a range from about 25°C to about 700°C and a pressure in a range from about 1×10^{-6} Torr to about 760 Torr during the ALD process.

6. (Original) A method of forming a multi-layer dielectric structure, the method comprising:

forming a first dielectric layer on a substrate according to an ALD process; and

forming a second dielectric layer directly on the first dielectric layer according to a CVD process.

7. (Original) The method according to Claim 6, wherein the first dielectric layer comprises one selected from the group consisting of SiO₂, Si₃N₃, Ta₂O₅, HfO₂, ZrO₂, TiO₂, Y₂O₃, Pr₂O₃, La₂O₃, Nb₂O₅, SrTiO₃ (STO), BaSrTiO₃ (BST) and PbZrTiO₃ (PZT).

8. (Original) The method according to Claim 6, wherein the second dielectric layer comprises one selected from the group consisting of SiO₂, Si₃N₃, Al₂O₃, Ta₂O₅, HfO₂, ZrO₂, TiO₂, Y₂O₃, Pr₂O₃, La₂O₃, Nb₂O₅, SrTiO₃ (STO), BaSrTiO₃ (BST) and PbZrTiO₃ (PZT).

9. (Original) The method according to Claim 6, wherein the first dielectric layer includes HfO₂ and the second dielectric layer includes Al₂O₃.

10. (Original) A method of forming an integrated circuit capacitor, the method comprising:

forming a first electrode on a substrate;

forming a first dielectric layer on the first electrode using a first one of an ALD process and a CVD process;

forming a second dielectric layer on the first dielectric layer using a second one of the ALD process and the CVD process; and

forming a second electrode on the second dielectric layer.

11. (Original) The method according to Claim 10, wherein forming a first dielectric layer comprises forming the first dielectric layer in a first chamber, and wherein forming a second dielectric layer comprises forming the second dielectric layer in a second chamber.

12. (Original) The method according to Claim 11, further comprising transferring the substrate after forming the first dielectric layer while maintaining a vacuum on the substrate.

13. (Original) The method according to Claim 12, wherein transferring the substrate after forming the first dielectric layer while maintaining a vacuum on the substrate comprises transferring the substrate via a transfer chamber configured to be selectively coupled to the first and second chambers.

14. (Original) The method according to Claim 10:

wherein the first dielectric layer comprises one selected from the group consisting of SiO₂, Si₃N₃, Ta₂O₅, HfO₂, ZrO₂, TiO₂, Y₂O₃, Pr₂O₃, La₂O₃, Nb₂O₅, SrTiO₃ (STO), BaSrTiO₃ (BST) and PbZrTiO₃ (PZT); and

wherein the second dielectric layer comprises one selected from the group consisting of SiO₂, Si₃N₃, Al₂O₃, Ta₂O₅, HfO₂, ZrO₂, TiO₂, Y₂O₃, Pr₂O₃, La₂O₃, Nb₂O₅, SrTiO₃ (STO), BaSrTiO₃ (BST) and PbZrTiO₃ (PZT).

15. (Original) The method according to Claim 10:

wherein the first dielectric layer comprises one selected from the group consisting of SiO₂, Si₃N₃, Al₂O₃, Ta₂O₅, HfO₂, ZrO₂, TiO₂, Y₂O₃, Pr₂O₃, La₂O₃, Nb₂O₅, SrTiO₃ (STO), BaSrTiO₃ (BST) and PbZrTiO₃ (PZT); and

wherein the second dielectric layer comprises one selected from the group consisting of SiO₂, Si₃N₃, Ta₂O₅, HfO₂, ZrO₂, TiO₂, Y₂O₃, Pr₂O₃, La₂O₃, Nb₂O₅, SrTiO₃ (STO), BaSrTiO₃ (BST) and PbZrTiO₃ (PZT).

16-20. (Canceled)